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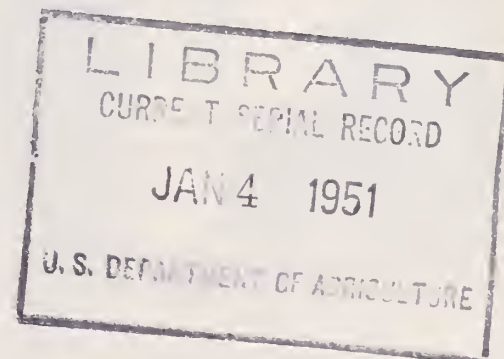
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GRAIN DRYING IS INDISPENSABLE

By William C. Dachtler Page 3

There are good reasons why mechanical drying is becoming an increasingly important step in the handling and storing of grain. Mr. Dachtler, Acting Chief of the Grain Branch's Commodity Research Division, explains why this is so and also outlines some of the progress made.

OILSEEDS IN WESTERN EUROPE

By Robert M. Walsh Page 7

Mr. Walsh, Deputy Director of the Fats and Oils Branch, reviews Western Europe's oilseed demand and supply situation, and at the same time keeps our export possibilities in the picture.

INSPECTION ASSURES HOP QUALITY

By J. E. Barr Page 11

As Chief of the Inspection Division of the Grain Branch, Mr. Barr has been in a good position to watch the transition of hop inspection from a wartime necessity to a service now requested by both producers and brewers.

REDUCING CANTALOUPE SHIPPING LOSSES

By Philip L. Breakiron Page 17

It looks like inertia, and not gravity, may be the real troublemaker behind cantaloupe shipping bruises. Mr. Breakiron describes a loading method which cuts down those losses.

TRIGG CHARTS PMA DEFENSE COURSE Page 21

Administrator Ralph S. Trigg recently outlined the preparations and changes PMA is making under the Defense Act. Here, excerpted from his speech, are some points of interest to marketing people.

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Grain Drying Is Indispensable

By William C. Dachtler

It's high time we quit thinking of mechanical drying of grain as only an "emergency" measure. High moisture content in grain has become a persistent condition in more crops in an increasing number of production areas.

The reasons are many.

First, we need to recognize that in most of our grain producing areas ideal drying weather during and after harvest is more likely the exception rather than the rule. Particularly is this true in the Gulf and the Eastern Seaboard States where grain production has expanded tremendously in recent years. In these areas, climatic conditions which are proving a blessing so far as high yields are concerned, also contribute to greater moisture content of the grain at harvest. Higher humidity and temperature induce spoilage and insect damage during storage in facilities which would likely be adequate in the cooler, drier climate of the Midwest. But even in the Corn Belt, "soft corn" has become a yearly fixture. Often, producers themselves inadvertently lay the groundwork for this condition through their choice of hybrid.



On the right, a farm drier in Montgomery Co., Tennessee, forces heated air into ducts leading to three separate bins in the right half of the building. In a slower and less expensive operation, where time is less a factor, the fan at the left forces unheated air into the near side of the building.

Hybrid a Factor

By and large, it is the hybrid corn requiring the longest growing season which produces the highest yields. Thus, there is a tendency for producers to "crowd their luck" a bit with hybrid varieties which utilize all the growing season of the area. If it turns out that planting is de-

layed by wet weather, or good drying days are scarce in the fall, the corn produced will almost certainly not be dry enough for ordinary crib storage.

Contributing also to a greater percentage of grain too high in moisture content for normal storage, is the trend for more and more producers to rely entirely on machines to do their harvesting. Actually, high moisture content in grain results from factors inherent in modern grain production. In many sections of the Corn Belt almost all the crop is harvested with pickers, and while this change has greatly eased the burden of harvest, it has also added to grain drying problems. No longer is the bulk of the corn cut and allowed to dry in the field but harvested quickly and moved into overcrowded storage facilities. Moreover, the relatively greater percentage of shelled grain and trash in mechanically picked corn retards drying by preventing the free passage of air through the crib. Frequently, picking is purposefully done when moisture content of the fodder and the grain are at a higher level because there is less shelling and "snapping off" when the crop is in this condition. Adding to the difficulty is the fact that a producer's entire acreage is likely to be harvested within a short period--a situation which does not allow corn to dry in smaller lots in the crib as it did once when hand harvesting was stretched over longer periods of time.

Small Grain Problems Similar

The problems related to small grain drying follow a similar pattern. With the use of a combine, the harvest is generally a one to three day operation which, once begun, is continued without interruption, particularly if the work is done by a custom operator. This means that the least ripe grain will be harvested about the time the ripest approaches the shattering stage--that the wet, greener grain, from the slower maturing "pockets" of a field will be bulked with the ripest. None of these problems were present when grain was cut, shocked and allowed to dry in the field.

Finally, because of the great savings in storage space and handling costs, a much higher percentage of the corn crop is being stored each year as shelled grain. The fact that construction of storage space has not kept pace with production highlights the trend because of the relative compactness of shelled corn. But also because of this density, it must be dried to a lower moisture content for safe storage. In many instances, mechanical drying is the only answer.

Many Agencies Cooperate

Recognizing this, the Grain Branch of the Production and Marketing Administration has rightfully accented grain drying as an essential practice in preserving the Nation's grain reserves. Utilizing funds of the Commodity Credit Corporation, and collaborating fully with research agencies of the Department, grain drying work has been conducted to maintain or improve the quality of grain which the Corporation holds, or to which it may hold title. The program is utilizing the findings of State Experiment Stations, the Bureau of Plant Industry, Soils, and Agricultural Engineering and the Bureau of Entomology and Plant Quarantine, to-

gether with those of commercial research agencies. For the past three years, resources of these agencies have combined to give effective grain drying demonstrations at the farm level.

The first stage of the program was directed toward solving the critical shortage of storage for the record 1948 crop. In many areas where the corn was of high moisture content at harvest, producers were shown how to improvise driers to insure safe keeping of the grain--a prerequisite for qualifying under the Government loan programs. It was also made clear to producers that the Corporation is authorized to make loans for the construction of adequate storage, and for drying equipment. Throughout the campaign, local suppliers of building materials, civic organizations, radio stations, newspapers and farm journals cooperated fully with the agencies of the Department.

In Iowa, for example, field days were held at a number of county fairs where a variety of types of floors, roofs and cribs were constructed to show which structures would be satisfactory for storing grain on the farm, and also meet the requirements for eligibility under the price support programs. In addition, a number of commercially built farm type grain driers were used to reduce the moisture content of corn to levels at which it could be safely stored. Simple and economical methods of adapting cribs commonly used by farmers in the area as drying houses were explained and demonstrated.

Producers Adopt Techniques

Demonstrations were varied to meet all aspects of the problem. At Vincennes, Indiana, five steel bins of 2,700 bushels capacity were equipped for ventilation and drying tests by installing perforated false floors



At White Co., Indiana, a portable farm drier forces heated air under a perforated floor of a COC bin of shelled corn. Producers may use the same drier on smaller farm-size bins.

or center ventilating ducts. Corn, both shelled and on the ear, was subjected to heated or unheated air and observations made periodically throughout the fall, winter, and spring months to determine the effectiveness of the various ventilation techniques on the storability of the grain. While this 1948 program did not solve all storage problems, it did prove the effectiveness of on-the-spot demonstrations. Producers quickly adopted many of the techniques displayed and the savings in corn and its feeding value have been tremendous.

More recently--in 1949 and this year--the emphasis of the storing and conditioning work has been focused on more permanent means of handling our growing grain production in the Gulf and the Eastern Seaboard States. And it is in this phase of the work that much of the gratifying progress in corn and small grain drying has been made.

It has been found that the methods and facilities commonly used in the commercial grain areas pre-war have not proved entirely satisfactory in these regions. Moisture content of the grain is higher at time of harvest and humidity and temperature conditions as well as greater insect infestation add to the difficulty of safe-storage here.

Program Covers Most Grains

To promote construction of adequate farm facilities and to encourage proper handling and conditioning, demonstration projects have been set up in eight States, six of which are in the Eastern Seaboard area. This work, incidentally, has not been limited to corn and wheat. Special emphasis has been placed on problems relating to storage of rice in Louisiana; grain sorghums and flax in Texas; corn, seed, and small grains in North Carolina, Virginia, Tennessee, and Maryland; and on dry edible beans and small grains in Michigan.



A batch-type drier in Beaufort Co., North Carolina, is designed to handle small lots of grain at the rate of about 100 bushels per hour. Inexpensive and simple to construct, this drier building makes a good farm facility.

The projects have been primarily demonstrational, and have served to show and explain improved methods for conditioning and storing grain. All types of commercially available farm scale drying equipment are being demonstrated at the 8 projects. In addition, new and improved designs of farm-size driers which have been developed by the engineering staffs of the Department and the State colleges have been tested.

Throughout the program all developments have been kept as flexible as sound engineering will allow. In each State, buildings for drying and storage have been adapted to the geographical conditions and to the commodities grown in the locality. Special attention has been given to the use of buildings that can be duplicated economically on the average farm. Drying and storage operations are being demonstrated in crib, bin and shed structures using a variety of ducts and perforated floors. Similarly, facilities have been designed so that they are adaptable to the drying of different grain crops in one locality or on an individual farm.

Western Europe, deficient in food-production, must constantly plan its agriculture with one eye on world supplies and prices, and the other on its own limited land area and supply of dollars. This is especially true with oilseeds. Mr. Walsh, who recently studied this situation in Europe for the Organization of European Economic Cooperation (the European counterpart of ECA), here appraises the matter for the fats and oils industry.

Oil Seeds in Western Europe

By Robert M. Walsh

Except under stress of grave international emergency it seems unlikely that any further expansion either in oilcrops or animal fats in Western Europe will keep pace with population growth. This means for the future that Europe will become more rather than less dependent on imports for its supplies of fats.

During the war and in the early postwar years traditional imports of oilseeds, fats, and oils into Western Europe were seriously curtailed. These reduced imports, together with a sharp reduction in animal fats, led to grave shortages. Accordingly production of oilseeds was actively encouraged by the European Governments.

Below Prewar Production

Expansion in annual oilseeds since 1940 has added more than 200,000 tons of vegetable oil a year to the Western European fat supply. But vegetable oils including olive oil--which makes up the bulk of the supply--contribute only a third of the total fat production. As a result of the decrease in animal fats, total production of fats and oils in western and Southern Europe is about 7 percent below the prewar figure of 3 million tons.

More than half of the fats consumed prewar were imported. Although imports today are somewhat lower, they still account for more than half of the total supply. Consumption is at a reduced level, while population has increased. West of the Iron Curtain there is no "shortage" of fats in terms of prevailing purchasing power and prices. The pressure, nevertheless, is in the direction of improved consumption standards. This is especially true in Germany and Austria, where consumption per person is still materially below prewar levels.

Increasingly, reliance is being placed on imports to maintain or improve the fat-consumption standards in Western Europe. Animal-fat production is making rapid recovery, but the increase in that direction has practical limitations. The production of oilseeds apparently has about reached its peak, assuming that imports continue to be available.

Western Germany withdrew all price-support measures for oilseeds beginning with the 1950 harvest. In Denmark and Italy prices of the domestic oilseeds fluctuate with changes in world markets. In Italy, more-

over, edible oils other than olive oil are taxed, to place olive oil--a food staple of economic importance--in a better competitive position in the domestic market. In the United Kingdom the price of flaxseed is fixed at a low level in relation to barley; flaxseed production, which was encouraged beginning in 1947, is now declining.

Sweden, Netherlands, and France continue to support the production of the annual oilseed crops. Other countries of Europe west and south of the Iron Curtain are not important producers except Turkey, where prices are free.

Sweden and the Netherlands are maintaining prices of oilseeds at high levels in relation to prices of competing crops. Production of rapeseed, in particular, is being encouraged. This is a high-yielding crop on the fertile soils of northern Europe. The oil extracted from rapeseed is used in margarine and as a cooking and salad oil. In 1949 and in 1950, Sweden produced small exportable surpluses of rapeseed and was largely self-sufficient with respect to edible fats. Some fats were imported, mainly whale oil and copra, for use in industrial products, and in margarine. The Netherlands, on the other hand, depends heavily on imports for its supply of edible oils. Production of oilseeds is being encouraged mainly because of the added drain on foreign exchange for foodstuffs arising from the sharp increase in population since 1940.

Oilseeds Related to Fixed Wheat Price

It was the stated intention of officials in France in the summer of 1950 to lower support prices for oilseeds gradually in relation to wheat to a point where, it was believed, prices for the oilseeds would be in a competitive position with imported materials. This intention may be altered by changing conditions. The price ratio of rapeseed (colza) to wheat was lowered by stages from a high of 3.1 in 1941 to 2.4 in the years 1946-49. For the 1950 harvest the price of colza was supported at 2.2 times the price of wheat. Before the war the price of colza was about 1.5 times the price of wheat. Prices of other oilseeds in France also are related to the price of wheat, which is fixed each year.

In French North Africa the price of flaxseed is fixed in relation to wheat in a similar manner. In Morocco, however, prices of edible oilseeds such as sunflower seed are now related directly to free-market prices of peanuts imported from West Africa.

Of a considerable list of annual oilseeds produced in western and southern Europe, including Turkey and French North Africa, only three are produced in commercially important quantities. These are rapeseed, flaxseed, and sunflower seed. Cottonseed is produced in sizable quantities as a joint product with cotton lint, mainly in Turkey and Greece. Oilseeds of minor importance include sesame seed, poppy seed, mustard seed, peanuts, soybeans, safflower seed, castor beans, and camelina or false flax. Some hempseed is grown. In addition tobacco seed, grape seeds, corn germs, tomato seeds, and rice germs are recovered and processed for oil, particularly in the southern area.

Rapeseed and turnip rape, both fall and spring sown, increased from less than 100,000 acres in northern Europe in the decade 1931-40 to a war peak of over 600,000 acres in 1944. Acreage subsequently declined until 1948. In 1949 and 1950 approximately 750,000 acres were devoted to the rape crops, with the largest concentrations in northern France, Sweden, and Western Germany. These crops can be expanded much further in northern Europe but only at the expense of high-yielding grain crops, root crops, and grasses. The general consensus in early summer 1950 was that the peak in acreage had been reached. Well-adapted and high-yielding varieties are available; nevertheless, experimental work to improve winterhardiness, yield characteristics, and insect resistance is being aggressively pursued.

The acreage in flaxseed for western and southern Europe, including Turkey and North Africa, was greater in 1949 than the acreage in rape. But fiber flax as well as seed flax varieties were included and the average yield of seed per acre was only a third that of the rape crops. Well over a million acres were in cultivation in 1949, nearly three times prewar.

Flaxseed Fluctuations

The most striking increase in flaxseed occurred in North Africa where over half the total acreage was concentrated. Flaxseed has been produced for export in French Morocco for many years. Here the acreage increased from less than 100,000 prewar to about 300,000 in 1949 but declined in 1950. In Algeria and Tunisia flaxseed was grown only for the local paint industry prewar. A mushroom growth occurred in 1948 and 1949, as a result of scarcity in world export supplies of flaxseed and linseed oil. But a sharp reduction followed in 1950, because of heavy rust infection in 1949 and reduced price guarantees for 1950.

Other countries where flaxseed production was significant in 1949 (20,000 tons or more) were Sweden, Turkey, United Kingdom, Netherlands, and Denmark. Yields per acre were fairly high in all these countries except Turkey where the seed is grown largely in the high-plateau areas of relatively light rainfall.

Sunflower seed is of importance principally in Turkey, although some is grown in southern France, Italy, and Morocco. Emigrants from Bulgaria introduced the sunflower into European Turkey (Thrace) only in recent years, but now it has become an important source of edible oil and oil cake for livestock. Since 1946 acreage has expanded sharply, reaching a total of nearly 300,000 acres in 1949, with a production of almost 100,000 tons. About half of the production was exported. There was a tendency in 1950 for sunflower cultivation to expand into the northwestern section of Asiatic Turkey. Production is sensitive to price changes, which in turn are dependent upon conditions in export markets.

Soybeans are not yet popular as an oilcrop in Europe or North Africa. Some experimental work is being carried on as far north as Sweden, but no varieties have been found that will give dependable yields of mature beans in the northern part of Western Europe, where the cool climate and

long day-length are limiting factors. Some soybeans are being grown commercially in parts of southern France, northern Italy, Austria, and along the Black Sea Coast in eastern Turkey; but total production for the whole area in 1949 was only a few thousand tons. Commercial varieties to date are not well adapted to the areas where grown, and yields have been low. Insufficient mechanization in areas where soybeans can be grown also is impeding expansion of the crop.

Possibilities exist for further expansion of oilseed crops in southern France, Turkey, and Morocco without serious displacement of other crops. The commodities that appear to offer the most promise for these areas are sunflower seed, soybeans, and safflower seed--a dry-atmosphere crop which produces a semi-drying oil used for food in Europe. At present the existing varieties of these crops are not well adapted; much further experimental work is needed. Cultural methods need improvement, and increased mechanization would help. Moreover, in Morocco, in particular, any large-scale increase in agricultural production largely awaits the development of new irrigation projects.

For the years ahead, Europe will continue to depend heavily on imports for its supplies of fats.

The United States is contributing significantly to those imports today. But in view of the continued scarcity of dollar exchange, non-dollar sources of supplies are being used to their fullest extent. Supplies of imports from such sources, however, are still short. The important thing for American producers and exporters of fats, oils and oilseeds to watch is the trend in export supplies from other areas of the world.

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DEHYDRATED CHEESE PRODUCT DEVELOPED

Cheese in powdered and tablet form is being marketed in the Netherlands, according to "Foreign Crops and Markets", publication of the U.S. Department of Agriculture's Office of Foreign Agricultural Relations.

The new dehydrated cheese product is made from Gouda and Edam cheeses under a process which is said to reduce the volume of the cheese by one half.

At present the product is being made in two types, "Full Fat", with a fat content of 44.2 percent, and "40 Plus", which has a fat content of 40.9 percent. The full fat product has a water content of only 3 percent, a mineral content of 11.9 percent and a protein content of 40.9 percent. The "40 Plus" product has the same water and mineral content but has a protein content of 44.2 percent.

The OFAR report says that a variety of flavors can be obtained depending upon the age of the cheese used for dehydrating.

Inspection Assures Hop Quality

By J. E. Barr

Hops are climbers--biologically, socially and dollar-wise. Time was when hop values were so erratic that the U. S. Department of Agriculture called "exclusive hop growing" an "exceedingly risky enterprise." About that time a 39,000,000 pound crop was valued at 4 million dollars. Today, a crop only 25 percent larger brings producers a return nearly 10 times as great.

Time was too, when hops were used principally in cereal beverages and for medicinal purposes. As a cure-all, hops were once heralded as a remedy for ills ranging from itch to influenza. Even today, experts say that individuals may be found who believe that sleeping on a hop-stuffed pillow somehow guarantees health. Almost all hop lovers today, however, take them in a different form--in the singular flavor they impart to beer and ale.

The flavoring of brews is not a new use for the flower or cone of the fast-growing, perennial vine known as Humulus Lupulus to the botanists. Since the days of Charlemagne and before, the substance lupulin, made up of resins and essential oils and derived from the hop flower, has given malt brews their characteristic flavor. Records dated as early as 768 A. D. indicate that the knowledge of hop breeding in certain German monasteries was related, in fact, responsible for the excellent reputation of their beers and ales.

Hop cultivation in North America dates back to 1620 in New Netherlands and in Virginia to 1648, although it did not become an important crop in America until about 1800. Later, hop cultivation shifted westward, first to western New York in the mid-nineteenth century, then to



The hop yard would quickly become a jungle if the fast growing vines weren't trimmed or trained to grow on the pole, wire and twine supports.

Wisconsin after the Civil War, and later on to the three West Coast States where 98 percent of the United States hop crop is now produced.

The sensitiveness of hops to climate and soil is largely responsible for this migration. About 1900, hop breeders found that such areas as the Sacramento Valley in California, the Willamette Valley of Oregon, and the Yakima Valley of Washington were best suited to produce hop cones of a high lupulin content, a delicate aroma, and capable of being harvested with a minimum of leaves and stems. These are the brewmaster's general requirements for choice hops, and while they are few, they are rigid. For that reason the emphasis in hop culture has long been as strong on quality as yield.

Contributing prominently to this stress on quality has been the work of the Federal-State Hop Inspection Service--a self-supporting public service which provides hop producers and brewers alike with an objective measure of hop value.

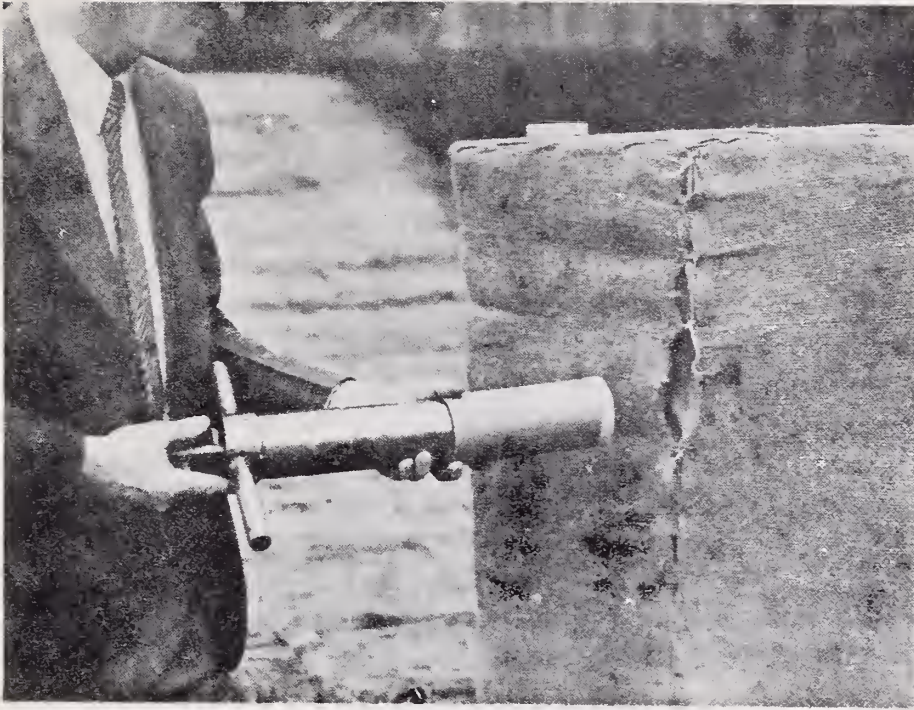
Certificates Are Quality Label

Since 1944 this work has been conducted as a cooperative project with the State Departments of Agriculture of California, Idaho, Oregon, and Washington. The work is under the direct supervision of B. W. Whitlock of the Pacific Coast Headquarters office of the Grain Branch at Portland, Oregon. During the six years this service has been operating, more than a million and a half bales of hops--or about 95 percent of the period's total production--have been inspected by the cooperating agencies. Representative samples are analyzed carefully for percentage of leaf and stem and seed, and upon the basis of the examination, certificates of quality are issued. These certificates are accepted in the industry as bona-fide evidence of the leaf and stem and seed content of the hops, and accordingly serve as a sound basis for price for the hops identified. The inspection and certification are limited to leaf and stem and seed content at the present time.

The service was originally initiated as a necessary control during wartime to establish a price base for purposes of the Office of Price Administration. The real measure of its value, however, is shown by the fact that producers have almost unanimously voted to continue the service on a mandatory self-sustaining basis. Producers have recognized the value of the inspection because it establishes a reward for quality in higher prices for marketed hops. Brewers readily assume the nominal charges for the service because it assures them of a swift and accurate measure of quality at a minimum of expense and effort on their part.

In 1949, producers voted for a Hop Marketing Order which, for the first time since the inspection service was inaugurated in 1944, included a minimum quality requirement. Under such an order inspection is mandatory on all hops sold in commercial trade channels.

The actual inspection procedure, whether requested as a requirement under the marketing order, or for purposes of resale, export, or otherwise, has been simplified to the utmost. The owner of a "lot" of hops



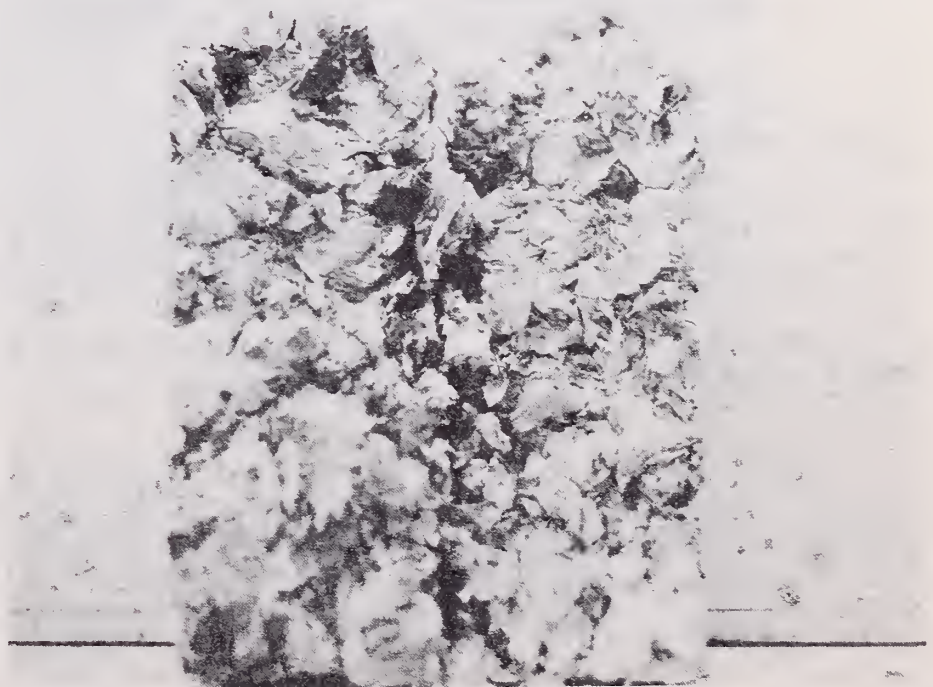
The core sample is deposited in a carton for safe-keeping. Cores are taken at random from 15 to 20 percent of the bales in a lot.

a device which divides the hops into analysis-sized portions for leaf and stem and seed determinations.

Two Representative Samples Selected

The hop divider, an ingenious mechanical device developed by the Grain Branch especially to do this job, splits the sample into two representative parts. This division is repeated until two representative portions of the desired size are obtained. One is used for determining the percent by weight of leaf and stem in the lot sampled, and another portion is used for determining the percent by weight of seeds.

Hand sieves with $1/8$ " and $1/16$ " round openings now further separate the hop material into various sizes. The whole hops and coarse material remaining on the larger sieve are hand-picked to separate the leaves and stems from the hops. The fine material passing through the $1/16$ " sieve consists largely of lupulin, and is returned to the sample and considered as hops.



Hops are grown for their lupulin, a powder contained here in hop cones or flowers awaiting inspection.

desiring inspection by the Federal-State Hop Inspection Service, makes a formal request giving the identification, location of the lot, and number of bales. A licensed sampler from the State Hop Inspection Laboratory then proceeds to sample the lot, drawing core samples at random from 15 to 20 percent of the bales in the lot.

At the inspection laboratory a portion of each core is removed and gently loosened to free the individual cones. This sample is then thoroughly mixed in a hop divider--

The middle sized material passing through the 1/8" sieve and remaining on top of the 1/16" consists of broken leaves and stems, broken hops, seeds, and "strigs," or stems of the hop cones. These cannot be readily separated by hand, but they can be separated accurately and quickly by the use of the Bates Aspirator, a device also designed by the Department which uses controlled air currents. Here the remaining leaf and stem particles are removed, while the fine hop material is returned to the hops.

The seed determination is made on a divided portion of the original sample selected from the hop cores. This portion is oven dried under controlled temperature until the lupulin loses its stickiness, and the leafy material becomes dry and brittle. Now the finely broken leafy material is easily separated from the seeds by a small Clipper mill--a device which combines screening with air blast removal of lighter particles. Strigs or stems still remaining with the seeds are separated by means of a sand paper lined tray on which the material other than seeds tends to remain, allowing only the round smooth seeds to roll off into a receiving pan.

The leaves and stems and the clean seeds which have been separated from the hops are each weighed separately and the percentage computed by means of a specially prepared conversion table. The results of the leaf and stem and seed determinations are then reported to the applicant in terms of whole percent on the Federal-State hop inspection certificates.

These inspection results, by the way, have been far more pleasing to most producers in recent years. The records show a remarkable change in the leaf and stem content during the last 7 years. Leaf and stem in Oregon hops have dropped from nearly 11 percent to about 5.3 percent. Washington hops have dropped from 10.5 percent to 3.2 percent. California dropped from nearly 11 percent to about 4.0 leaf and stem.

A Reward for Quality

What these figures mean can be shown by the 1 cent per pound premium received by alert producers for each 1 percent decrease in leaf and stem content below 6 percent. Normally, premiums for low seed content are based on industry classifications for "seedless hops," 3 percent or less seeds; "semi-seedless hops," 4 to 6 percent seeds; and "seeded hops" containing over 6 percent seeds. There ordinarily is a premium of 10 cents per pound for seedless hops and a premium of 5 cents per pound for semi-seedless hops over the price for seeded hops.

Most of this improvement in hop quality must be attributed to cleaner picking and more careful handling. This has been stimulated by premiums offered for higher quality as evidenced by the Federal-State Inspection Certificate issued on each grower's lot.

The exactness of the measurement of quality of the Inspection Service is only a parallel of the care given to every phase of hop production. From the point of selecting the site for the hop yard--through the fight against insects and diseases and the "training" of the fast-

growing hop vines to the handling of the baled cones--producers must constantly try to insure that conditions will be as favorable as possible for the singular and exacting plant. While the vine itself is a hardy perennial which may grow 12 inches in 24 hours, the hop cone or bur develops slowly, and is quite fragile. Moreover, hops are highly susceptible to a number of diseases and in spite of the care tendered the hop yard, damp weather may bring on blue mold, powdery mildew, sooty mold, or the very destructive downy mildew. Climate or weather conditions which would eliminate the threat of such diseases, however, would not be suited to hop production, for the vines will not thrive where weather is too hot and dry or sunshine too strong and constant.

The ideal climate is one where temperature changes are gradual--where an abundance of soil moisture is available through the period the hop vines are attaining their growth, but where rains are rare during the period of cone development and ripening. Producers who can irrigate their yards can go a long way toward providing such conditions.

Hand Labor Essential

While hop culture has largely been mechanized in recent years--including picking and cultivation--the setting of the hop roots and the trimming away of excess growth are still hand operations. So is much of the work connected with the pole, wire and twine trellis support upon which the vines are trained to grow. Since hops are born climbers--and always counter-clockwise, by the way--this is not too difficult.

Rows are established by stretching heavy wires 15 to 20 feet above the ground, and to the extent of about 1 1/2 mile of wire per acre. From this wire, strands of heavy twine are tied to stakes adjacent to each newly started vine. Once introduced to the support, the hops quickly make their growth aloft. Thus, at harvest the twine and hop growth may be cut down from the semi-permanent pole and wire trellis work and harvested on the spot by hand picking, portable harvesters, or they may be trucked away to larger, stationary machines.



Hop vines, which may well grow a foot a day, are trained for their growth aloft on the trellis.

No matter how the hops are picked, the care that is exercised in separating the cones from the leaves and stems largely determines the grade of the product and its value as a flavor for brews. Careful hand-

ing during the curing, drying and baling process is also highly essential to the maintenance of a choice aroma and color.

Before the inauguration of the Inspection Service quality premiums for domestic hops were based almost solely on individual buyer preferences for such characteristics. The establishing of an inspection service based on leaf and stem and seed content have not removed these individual preferences but have served to set up standards on characteristics for which there is general agreement.

Those in charge of the Inspection Service have been gratified by the cooperation exhibited by all segments of the industry. This willingness to work out problems, and there have been many, has meant that the program has steadily moved toward its goal of keeping hop quality high, and rewarding producers for the effort.

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RAPID WHEAT QUALITY TEST DEVELOPED

A quick simple sedimentation test of the gluten content and quality of wheat--the bread-baking qualities of the grain--has been developed by the U. S. Department of Agriculture.

Development work was done under the Research and Marketing Act by the Grain Branch of PMA, in cooperation with the Bureau of Plant Industry, Soils and Agricultural Engineering and various cereal and flour mill laboratories under contract with the Department.

The test is based upon the fact that gluten in a water suspension swells enormously and takes up water rapidly when the proper concentration of lactic acid is added. In the test, a small sample of flour is obtained from wheat ground for two minutes. This flour is sifted and put into a water suspension in a graduated glass cylinder. Lactic acid is added. The level to which the swollen gluten settles after a given interval is measured. Both the quantity of the gluten and its quality, as shown by its ability to absorb water, are indicated quickly.

Checked against milling and baking tests made on hard red winter, hard red spring, and white wheat from crops of the past three years, the following definite conclusions were arrived at:

1. There is a close relation between sedimentation test indications and bread-baking quality of wheat as judged by comparative loaf volume and baking scores obtained in experimental bread-baking tests.

2. The sedimentation test is a better indicator than the usual protein test of inferior gluten quality of such wheats as Chieftan and Red Chief. The protein test does not reflect differences in gluten quality.

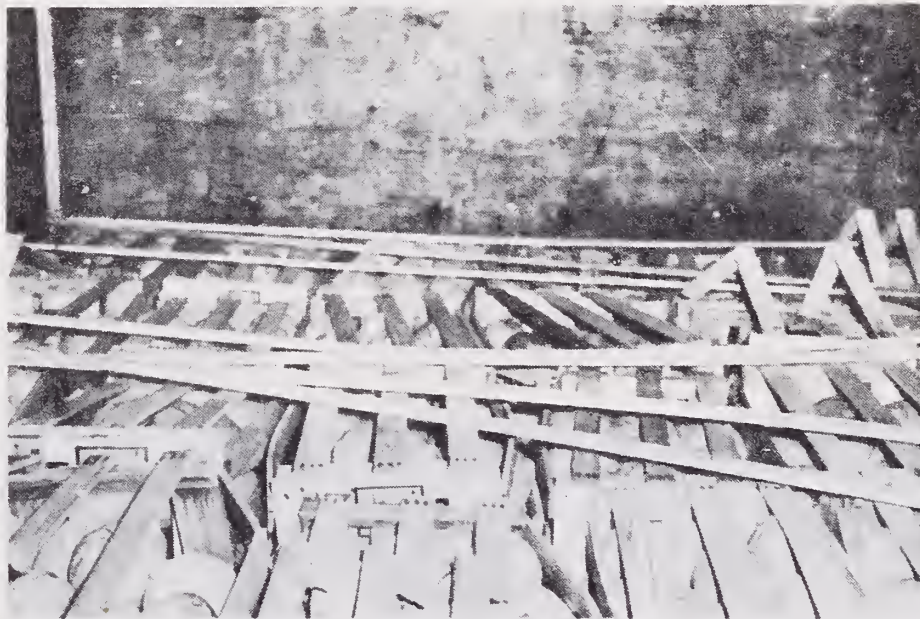
3. The sedimentation test appears to be a better index of the bread-baking quality of wheat than the widely used "farinograph" test.

Reducing Cantaloup Shipping Losses

By Philip L. Breakiron

Research has again successfully turned the tables--or crates, that is--and the results can mean better cantaloups next summer at your breakfast table. A reduction of melon bruising damage by about 50 percent, and crate breakage by about two-thirds, may be possible through use of a crate-on-end loading method tried out in test shipments made during the past season for the U. S. Department of Agriculture.

Placing the crates in an upright position in the load makes it possible for the short, heavy end posts and panels to take the sharp lengthwise thrusts or jolts which occur in switching and "humping" cars. This way, full advantage is taken of the inherent structural strength of present type nailed cantaloup crates. Heretofore, these rail-wise thrusts have been absorbed by the longer, lighter, side, bottom and top slats of the crates. The result: Container breakage, including racked and buckled crates, sprung slats, and bruised, split, and spilled melons.



Melons take a beating when their crates are twisted or buckled. Here slats of conventionally loaded crates have been broken by end-thrust jolts.

Two Savings Indicated

If the reductions in breakage indicated in early tests are confirmed, immediate savings would run about \$628,000 a year in container damage alone on the basis of the 1949 loss and damage claim payments by U. S. Class I railroads of \$943,113. Additional savings in refrigeration costs to shippers and receivers of about 5 cents per crate, or approximately \$300,000 on a year's shipments on the basis of present rail refrigeration charges can also be realized from the use of this new loading method.

By reducing or eliminating bruised melons in undamaged crates now entering the marketing system at the wholesale level, and part of which finally reach the consumer, substantial savings, above those realized from reduced breakage and refrigeration costs, are possible. These savings from

reduced bruising, however, are one of those types of research results with a very real value difficult to translate into dollars and cents.

Bruises on cantaloups--even slight, barely noticeable bruises--materially reduce the market life and keeping quality of the melons. Since spoilage of the melons following bruising occurs in all subsequent market channels, and even after the commodity has been purchased by the consumer, prevention of bruising and damage to the commodity during transit is particularly important. And as many housewives know, cantaloups with bruised and soft spots on the surface are all-too-common in the produce department of many grocery stores.

In-Transit Damage Studied

The research responsible for pointing up these savings had as its objective the development of improved methods of loading and bracing cantaloup shipments to eliminate much of the damage now associated with the transcontinental rail hauls of this commodity. It was carried out for the Department by the Western Growers Association under the Research and Marketing Act of 1946.

In the new on-end loading method the crates are loaded 2 layers high, 6 rows wide and 26 stacks long, making a total of 312 crates per car.



Jumbo cantaloup crates loaded on-end--an arrangement that permits an additional 24 crates per car.

Crates in the lengthwise load are stowed 3 layers high, 6 rows wide and 16 stacks long, with a total of 288 crates. Since charges for standard refrigeration between given points are at a flat rate per car and the same quantity of "top" or snow ice is used for both types of loads, the addition of 24 crates in the on-end load results in a lower per-crate refrigeration cost.

During the two month period in which the loading method was tested, a total of 30 test shipments was made from the producing areas in California to several large eastern markets, with most of the shipments going to New York City. Melons of the same variety and quality, packed at regular packing sheds in the usual commercial manner were used in the tests. The test loads were shipped in pairs, that is, one on-end load and one lengthwise load, from the same points of origin to the same destination, usually in the same trains. In-transit handling conditions encountered by the test cars were recorded on special ride-recording instruments. Inspections of the test shipments at destination for melon

bruising, splitting and other condition factors were made by USDA inspectors. Crate breakage and damage in the loads were carefully checked by representatives of the Western Growers Association and the Railroad Perishable Inspection Agency.

Complete breakage records were obtained for 15 on-end test loads accompanied by 15 companion cars containing regular lengthwise loads. An average of only 2.03 percent of the crates were broken in the on-end loads compared to 7.62 percent in the lengthwise loads. "Bad order" or irreparable crates were found in only three of the fifteen on-end test cars compared to ten of the fifteen lengthwise check cars. On a per car basis, the 15 on-end loads showed an average of only 6.3 damaged crates per car while the 15 lengthwise loads had an average of 22 damaged per car.

Preliminary indications are that the on-end loading method may not cost any more to use than the conventional lengthwise method that has been in use for many years. Indeed, there is a very real possibility that the new loading method may be somewhat more economical to use than the lengthwise method and may facilitate faster loading and unloading of the cars. These aspects of the on-end method, however, will require some additional investigation.

End Thrusts Jumble Melons

The test shipments also revealed that melons in many crates of the lengthwise loads were badly jumbled and turned crosswise in the crates. This condition, in turn, contributed to settling of the packs and excessive bruising of the melons, particularly in the bottom layer crates. Split or cracked melons were also found to be more prevalent in lengthwise than in on-end loads.

One of the principal questions raised by some melon shippers and distributors regarding the practicability of the on-end loads, before the tests were undertaken, was whether the packs in the on-end crates settle and cause severe bruising to the melons in the bottom end of the crate. Inspection at destination, however, showed little or no settling and no jumbling of the melons in the on-end loads and considerably less bruising and splitting of the melons than in the lengthwise loads. With removal of the melons in the lower half of the crates at destination, it was found in most cases that melons in the upper half of the crate actually remained suspended at that point by the internal pressure within the packs.



In on-end crate, melons are suspended by internal crate pressure.

It is especially interesting to note that the undesirable pack conditions which some members of trade thought would render the on-end load unworkable were actually more prevalent in the conventional lengthwise load.

Because of the relatively short shipping season during which these tests were conducted, it was possible to obtain only a limited number of test shipments from one major producing area of California. These tests will be continued early next summer from other producing areas in California and Arizona.

In response to consumer demands for vine-ripened, better flavored cantaloups, the western melon industry has been shipping more mature melons in recent years. Most of these more-mature melons are particularly susceptible to bruising, especially after the shipment has been on the road about ten days. Such improvements as the on-end loading method growing out of this type of research can make it possible for the melon industry to place a better cantaloup on the consumer's breakfast bale.

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SUNFLOWER-SEED PRODUCTION OFF SHARPLY

A reduction of 57 percent in the 1950 sunflower-seed crop as compared with last year is reported by the Bureau of Agricultural Economics. This year's production of the seed is expected to total 6,300,000 pounds as against 14,600,000 pounds produced in 1949, and will be 25 percent under the 1944-48 average production.

The estimate is based upon sharp reductions in acreage in the three important producing states of the country: North Dakota, New Mexico, and California. Acreage for harvest this year is estimated at 9,200 compared with 31,000 acres a year ago.

* * *

TOBACCO INSPECTION AND NEWS SERVICE EXTENDED

Free and mandatory inspection and the market news service of the Production and Marketing Administration has been extended to the tobacco markets at Mayfield, Murray, and Paducah, Ky. Action was taken following approval by growers selling tobacco on the markets who voted in a referendum late in September.

* * *

WOOL TRADE TO AID ARMY

Representatives of the wool importing trade met with PMA officials in Washington on October 31 to help work out a program to procure an estimated 30,000,000 pounds of wool, clean basis, requested by the Department of the Army. The purchase is to be made through normal trade channels.

Trigg Charts PMA Defense Course

The delegation to the Production and Marketing Administration of defense production responsibility for food and related farm products has undoubtedly raised questions for those interested in the marketing of agricultural products. Many of these questions have been answered in a recent speech made by Ralph S. Trigg, Administrator of PMA.

According to Mr. Trigg, those interested in the various phases of agricultural marketing can continue for the most part to work with the units and the people of PMA with whom they are already acquainted, since the established commodity and functional branches of the agency will initiate any action needed in their particular fields and will administer any programs which are approved.

Mr. Trigg made this known in a speech before the annual convention of the Milk Industry Foundation in Atlantic City, N. J. on October 17. Although his remarks were addressed specifically to the dairy industry, they apply equally as well to growers, handlers, and processors of other farm products. Pertinent paragraphs of the speech follow:

"First, let me review very briefly the administrative set-up in the Department to handle defense activities. I think this is important for those of you who will have occasion to come to us with problems, and to work with us in finding the best possible solutions.

Machinery Already Available

"As you know, the President last month assigned to the Secretary of Agriculture appropriate responsibilities under the Defense Production Act. The Secretary, in turn, delegated the responsibilities for food and related activities to the Administrator of the Production and Marketing Administration. PMA includes practically all of the service and units which made up the former War Food Administration, and it was therefore not necessary--as it was in some other government agencies--to establish a new or separate agency.

"Our established commodity and functional branches will have the basic responsibilities within their areas of operation. The Dairy Branch, for instance, will initiate any action which may be needed in its field, and it will carry out the administration of any programs which are approved. This means that you in the industry can continue to work with the units and the people with whom you are already acquainted.

"We have established a few offices or special staffs to coordinate over-all activities and to maintain necessary working relationships with

other government agencies and with outside groups. These include an Office of Materials and Facilities, an Office of Requirements and Allocations, and a Price Staff. The functions of some other branches and offices have also been broadened to meet the need for additional operations.

"That is our general administrative plan. Most commodity questions will go right to the established branches with which you have been working right along. Problems which cut across the board will be referred to the staff offices."

* * *

SOYBEAN CHARACTERISTICS AFFECTED BY TEMPERATURE

The idea that "beans are beans, wherever you grow them" has been under fire for some time by certain chemists and marketing analysts who have recognized its misleading marketing implications. For years these experimenters have known that soybeans are sensitive to growing conditions; now they have shown what this sensitivity can mean in soybean value for a specific purpose.

A report recently issued by the U. S. Department of Agriculture shows that soybeans produced in the southern States are generally higher in oil content than those grown in northern States. On the other hand, both the protein content of the soybeans and the drying capacity of the oil tend to be higher in northern grown soybeans. Called "Marketing Study of the Oil Content of Soybeans as Related to Production Areas and Climate," the report has been based on a study conducted under the Research and Marketing Act. Copies are now available upon request to the Information Branch, Production and Marketing Administration, Washington 25, D. C.

CCC Records Utilized

The report is one of the first marketing studies showing the extent of the relationship between climate and soybeans produced in various sections of the United States. However, the collection and analysis of samples of beans from 10 soybean-producing areas was only part of the study. Similar experiments made earlier were utilized as were the records of the Commodity Credit Corporation for the years 1943-1945. As a wartime measure, CCC during this period bought most of the soybean crop on a grade basis and sold it to processors on an oil-content basis. Analysis and comparison of these data from varied sources furnished the pattern for the relationship between different soybean characteristics and the growing conditions that produced them.

Six of the 10 areas surveyed lie approximately on a north-south line from the Canadian border to the Gulf of Mexico. From North to South, the oil content of the soybeans in each of the six areas increased, being lowest in the most northern area and highest in the southernmost. These differences in oil content appeared to result primarily from differences in temperature, while differences in rainfall, length of day, and altitude had no significant effect on oil content.

Marketing Briefs

(The Production and Marketing Administration announcements summarized below are more completely covered in press releases which may be obtained on request from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C. by citing the code number given at the end of each item.)

Cotton.--NO marketing quotas and NO acreage allotments for cotton produced in 1951. This announcement has been made, together with the recommendation that the 1951 cotton crop be increased to 16 million bales, needed to take care of increased domestic and export demand and to avoid depleting the country's reserves. "The present cotton supply situation, which calls for the sharp increase in production next year, is the result of a combination of conditions," Secretary of Agriculture Charles F. Brannan pointed out. "Acreage was down in 1950--well below the established national allotment. Yields were the lowest since 1946. At the same time, prospective disappearance of cotton for this marketing year is at a high level.

"As is the case of wheat and other grains, it is in the public interest to have a little more cotton than we need rather than to run the risk of shortage. . "

Total supply of upland cotton for the 1950-51 marketing year is 16,405,000 running bales, including an August 1 carry-over of 6,639,000 bales; indicated 1950 production of 9,637,000 bales; and estimated imports of 129,000 bales. The calculated "normal supply" for 1950-51 is 18,798,000 bales, including estimated domestic consumption of 9,860,000 bales; estimated exports of 4,600,000 bales; and the 30 percent allowance for carry-over of 4,338,000 bales. Thus, the total supply is below the "normal" supply--the level at which quotas would be called for.

The fact that acreage allotments and marketing quotas will not be in effect for the 1951 cotton crop does NOT relax any provisions of the 1950 acreage allotment and marketing quota program. All phases of the 1950 program will be carried on to completion as required by the Act and the regulations. (USDA 2407-50)

Interim export allocations for cotton, totaling 2,000,000 running bales for the period August 1, 1950 through March 31, 1951, have been announced as a safeguard against exports larger than might be warranted under the current domestic cotton supply situation. Action was taken by the Department under the Defense Production Act and the Executive Order delegating to the Department authority for provisions of the Act relating to agricultural products. The total allocation was broken down by countries. (USDA 2468-50)

Emphasis on the fact that the export allocation was an "interim export allocation" and that further review would be made, out of which adjustments of this minimum figure would be made, was contained in a subsequent statement by Secretary Brannan. "I want to emphasize the fact that the allocations announced on October 10 were literally 'interim' allocations for part of the shipping year," he said. "We must know more about the grade and quality of the 1950 crop, more about farmers' planting intentions for next year, and more about the overall situation as it will be reflected in requirements for cotton before we can determine the extent to which additions can be made safely to the announced allocations." (USDA 2512-50)

An increase of 146,000 bales, boosting the export allocations to a total of 2,146,000 bales was announced by the Department on October 23. The increase was made possible by the fact that the final census report on cotton carryover, before the 1950 crop, showed 146,000 bales more than previously reported and known to be available at the time the original allocations were made. (USDA 2565-50)...A country-by-country breakdown of this additional allocation was announced on November 2. (USDA 2669-50)

An additional increase of 1,350,000 bales in the preliminary and interim cotton export allocation for the August 1, 1950 - March 31, 1951 period was announced on November 9. At that time, the Secretary of Agriculture said that improved weather conditions and other factors made the increase possible. As a further measure of protecting domestic cotton supplies, however, the Department of Commerce, at the request of the Department of Agriculture, made export license controls effective for cotton waste. (USDA 2716-50)

Dairy.--Completion of arrangements to sell 50 million pounds of Government-owned CHEDDAR CHEESE to the United Kingdom Ministry of Food was announced by CCC. The sale represents about one-half the Corporation's remaining inventory stocks of CHEESE acquired under price-support operations. (USDA 2553-50)

A Federal Milk Marketing order regulating the handling of milk in the Milwaukee, Wis., milk marketing area has been issued. The order, effective November 1, was approved in a referendum by more than three-fourths of the dairy farmers participating and who regularly supply the market. Price and producer payment provisions of the order become effective December 1. (USDA 2561-50)

Fats and Oils.--Price support for the 1950 crop of TUNG NUTS at 60 percent of parity as of November 1, 1950 has been announced. Average support price for TUNG NUTS will be \$63 per ton, basis 17.5 percent oil content. Grower-owned TUNG OIL will be supported at 25.1 cents per pound. As a result of higher parity prices, the price support level for the 1950-crop is above the 1949-crop level of \$60 per ton for nuts and 24.1 per pound for oil. (USDA 2656-50)

A marketing quota of 650,000 tons and a national acreage allotment of 1,771,117 acres for the 1951 PEANUT crop have been announced, and a referendum on marketing quotas for the 1951, 1952, and 1953 crops will be held on December 14. (USDA 2596-50)

Announcement has been made that 1950-crop Virginia and Valencia-type peanuts acquired by CCC from acreage in excess of the 1950 allotted acres will be offered for sale by the Corporation for edible use at prices not less than 105 percent of the applicable support prices for edible peanuts plus carrying charges. Proceeds from the sales of these peanuts, after deduction of all costs to CCC, will be prorated proportionately among all producers delivering the excess peanuts to CCC at oil prices. (USDA 2441-50)

Citrus Fruits.--Members and alternate members of the ORANGE Administrative Committee who will serve under the amended California-Arizona orange marketing agreement order program during the two-year period ending October 31, 1952, have been named by the Department. (USDA 2631-50) Members and alternates of the LEMON Administrative Committee who will serve for the same period under the California-Arizona lemon marketing agreement and order program also have been announced. (USDA 2629-50)... One of the principal functions of the two committees will be to recommend to the Secretary of Agriculture, after investigation of supply and demand conditions, the quantities of their respective fruits which should be shipped weekly.

Fruits and Vegetables.--Proposed revision of U. S. Standards for Grades of Pitted and Unpitted Sulfured CHERRIES were published in the Federal Register on October 6, as a notice of proposed rule making. A period of 90 days is provided for packers, distributors, and other interested parties to submit comments and suggestions. (USDA 2412-50)

POTATO growers in North Dakota, Minnesota, Wisconsin, Michigan, and certain designated counties of Iowa and Indiana approved amendments to the potato Marketing Order No. 60, covering that area, in a referendum held September 25-30. The amendments, approved by 75.3 percent of voting growers of the area, provide for more flexible operation of the order and for expansion of the existing production area to include the commercial potato counties of Iowa and Indiana. (USDA 2432-50)...New members and alternates of the North Central Potato Committee, to represent Iowa and Indiana, were announced on October 30. (USDA 2628-50)

A Federal Marketing Order, effective November 11, regulating handling of potatoes grown in Massachusetts, Rhode Island, Connecticut, New Hampshire, and Vermont together with 1950 support prices for those States, has been announced. The order was favored by producers of 69.3 percent of the potato production represented in the voting in the referendum on the order. (USDA 2627-50)

Grains.--CORN support rates for the 1950 crop ranging from \$1.36 to \$1.64 per bushel in commercial corn counties and from \$1.02 to \$1.30 per bushel in non-commercial corn counties have been announced. Last year acreage allotments were not in effect for corn, and a support rate averaging 90 percent of parity was mandatory for all producing areas, making the national support rate \$1.40 per bushel. This year, with acreage allotments in effect in the "commercial" but not in the "non-commercial" area, support at the 90 percent-of-parity level is available only to "commercial" area. For the "non-commercial" areas, where acreage allotments

are not in effect, the law limits support to only 57 percent of the 90 percent-of-parity level. Rates for individual counties are available in State and county PMA offices. (USDA 2437-50)

Final reports showed that farmers put 386,354,413 bushels of 1949-crop CORN under price support. This total includes loans later redeemed and purchase agreements under which no deliveries or only partial deliveries were actually made. (USDA 2497-50)

There will be no marketing quota in effect for the 1951 CORN crop and acreage allotments will be set at levels high enough to provide a substantial increase in production next year, it has been announced by Secretary of Agriculture Brannan. The action is being taken in order to assist in assuring abundant production of meat and other livestock products. The Secretary pointed out that his announcement should make it possible for farmers to go ahead with plans for breeding an increased number of sows and for preparing their land for corn in those areas where this is done in the fall. (USDA 2657-50)

Naval Stores.--The first Federal Market News Service on turpentine and rosin has been put into effect with headquarters at Savannah, Ga. Price and other market information collected and distributed through the service will give producers, dealers, consumers, and the trade generally information covering transactions at Savannah, Jacksonville and Pensacola, Fla., Mobile, Ala., New Orleans, La., New York City, and other points. (USDA 2592-50)

Sugar.--The amount of sugar charged against 1950 quotas during the period January through September amounted to 6,534,108 short tons as compared with the quota for this year of 8,700,000 short tons. Charges against the 1949 quota during the same period last year totaled 5,904,707 short tons. (USDA 2464-50)

An embargo on all exports of MOLASSES in order to prevent depletion of supplies that will be needed to meet essential uses in the United States has been requested of the Department of Commerce by the Department of Agriculture. (USDA 2546-50)

Time for submitting written data, views or arguments in connection with proposed U. S. Standards for Edible Sugarcane MOLASSES and proposed U. S. Standards for Sugarcane SIRUP has been extended from October 26, 1950 to January 20, 1951. Such information should be filed in duplicate with the director of the Sugar Branch, PMA, U. S. Department of Agriculture, Washington 25, D. C. (USDA 2598-50)

A public hearing on sugar requirements for 1951 will be held in the Thomas Jefferson Memorial Auditorium of the U. S. Department of Agriculture, Washington, D. C. beginning at 9:30 a.m., November 28, 1950. The hearing will afford all interested parties an opportunity to present data, views, or arguments with respect to sugar requirements and the establishment of sugar quotas for the continental United States for the calendar year 1951. (USDA 2689-50)

ABOUT MARKETING

The following address and publications, issued recently, may be obtained upon request. To order, check on this page the publications desired, detach and mail to the Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Address:

What Lies Ahead in the Defense Effort, a talk by Ralph S. Trigg, Administrator of the Production and Marketing Administration and President of the Commodity Credit Corporation, at the Annual Convention of the Milk Industry Foundation, Atlantic City, N. J., Oct. 17, 1950. 9 pp. (Processed)

Publications:

Distribution of United States Food, July 1, 1949 - June 30, 1950. October 19, 1950. 12 pp. (Bureau of Agricultural Economics, the Office of Foreign Agricultural Relations, and PMA) (Processed)

Good Planting Seed Will Be a Key Factor in Cotton Production in 1951. PA-137 (Leaflet) October 1950. (PMA) (Printed)

Consumer Fruit and Juice Purchases April-June 1950. September 1950. 49 pp. (BAE and PMA) (Processed)

Availability of Certain Fresh Fruits and Canned and Frozen Juices in Retail Food Stores, August 1950. September 1950. 19 pp. (PMA) (Processed)

Inventory and Hedging Policies of Commercial Mixed-Feed Manufacturers in the United States. AIB No. 24. September 1950. 45 pp. (BAE and PMA) in cooperation with Agricultural Experiment Stations of Illinois, Oregon, Pennsylvania, Tennessee, and Texas) (Processed)

Fiber and Spinning Test Results for Some Cotton Varieties Grown by Selected Cotton Improvement Groups, Crop of 1950. September 1950. 7 pp. (PMA) (Processed)

Cotton Classing Services Available to Farmers. October 1950. 3 pp. (PMA) (Processed)

School Lunch and Food Distribution Programs Selected Statistics, Fiscal Years 1939-50. September 1950. 15 pp. (PMA) (Processed)

Official Standard Grades for Dark Air-cured Tobacco (U.S. Types 35, 36, and 37) September 1950. 8 pp. (PMA) (Processed)

November 1950

ABOUT MARKETING (Cont'd)

United States Standards for Grades of Canned Grapefruit and Orange For Salad, Effective August 7, 1950. June 30, 1950. 11 pp. (PMA) (Processed)

Because of the importance of proper grain storage and the special interest this year in corn drying, attention is called to the following publications on these subjects:

Handling and Storing Soft Corn on the Farm. FB No. 1976. September 1945. 13 pp. (Printed)

Storage of Small Grains and Shelled Corn on the Farm. FB No. 2009. September 1949. 30 pp. (Printed)

Storage of Ear Corn on the Farm. FB No. 2010. September 1949. 27 pp. (Printed)

Mechanical Drying of Corn on the Farm. Circular No. 839. March 1950. 26 pp. (Printed)

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(Be certain that you have given us your name and full address when ordering statements or publications. Check only the individual items you desire.--Editor)

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